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(71) Applicant: **NIKON CORPORATION**
Tokyo 100-0005 (JP)

(72) Inventor: **Sogard, Michael**
Menlo Park, CA 94025 (US)

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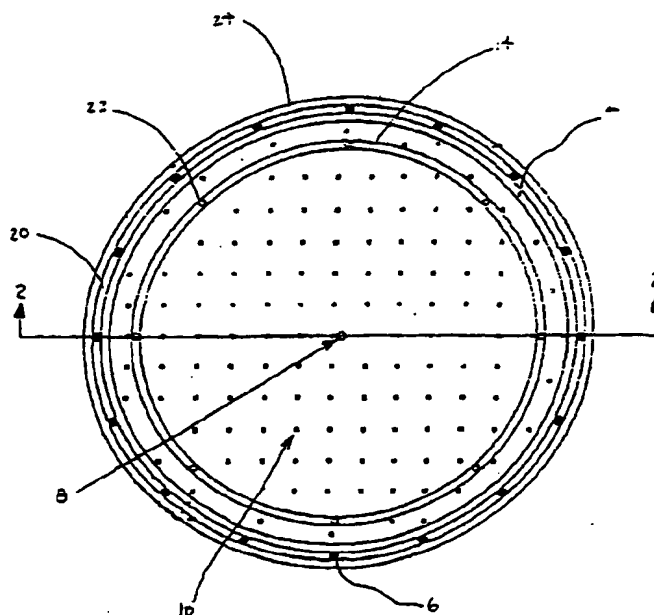
(74) Representative: **Viering, Jentschura & Partner**
Postfach 22 14 43
80504 München (DE)

(54) **A gas cooled electrostatic pin chuck for vacuum applications**

(57) An electrostatic pin chuck consisting of an annular array of gas inlets, located towards the periphery of the chuck, for providing a uniform distribution of cooling gas to a wafer held by the chuck. This uniform distribution of cooling gas results in a uniform transfer of heat from the wafer to the chuck. Two annular rims positioned towards the outer perimeter of the chuck, and

separated by an annular array of vacuum pumpout ports connected through a manifold to a vacuum pump, help to prevent leakages of cooling gas by functioning as gas bearing seals. Varying the annular thickness of the inner and outer rim, vacuum pump pressure, and the space between the wafer and chuck all affect the leakage rate of cooling gas from the chuck.

Fig. 1



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EUROPEAN SEARCH REPORT

Application Number
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			H01L H02N C23F
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 16 December 2003	Examiner Bader, K
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date O : document cited in the application L : document cited for other reasons A : technological background O : non-written disclosure P : intermediate document & : member of the same patent family, corresponding document	
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**ANNEX TO THE EUROPEAN SEARCH REPORT
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